



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/437,246	11/10/1999	SATOSHI SHINADA	Q56708	7699

7590

02/27/2004

SUGHRUE MION ZINN MACPEAK SEA PLLC
2100 PENNSYLVANIA AVENUE N W
WASHINGTON, DC 200373202

EXAMINER

NGHIEM, MICHAEL P

ART UNIT	PAPER NUMBER
----------	--------------

2863

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/437,246

Applicant(s)

SHINADA ET AL.

Examiner

Michael P Nghiem

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2004 and 23 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-7,10-25,27,29-32,34,36-44,46,47,50,53,58-61 and 63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,5-7,10-25,27,29-32,34,36-44,46,47,50,53,58-61 and 63 is/are allowed.
- 6) ☒ Claim(s) 51,54-57 and 62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 41. 6) ☐ Other:

Art Unit: 2863

DETAILED ACTION

The Amendment filed on October 23, 2003 has been acknowledged.

Claim Objections

1. Claim 51 is objected to because of the following informalities:

- "ink port" (line 15) should be - ink supply port --.
- The ink chamber is NOT formed in the ink channel (line 15).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351 (a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 51, 54-57, and 62 are rejected under 35 U.S.C. 102(e) as being anticipated by Nagasaki et al. (US 6,036,305).

Art Unit: 2863

Nagasaki et al. discloses all the claimed features of the invention including:

- an ink cartridge (11) for a printing apparatus providing ink to a print head (1) through a tapered ink supply needle (2), said ink cartridge capable of providing ink to the print head through the ink supply needle (Figs. 2, 3), the ink cartridge comprising:

- an ink chamber (12) containing ink therein and an absorbent material (14);

- an ink channel (16, channel of 2) for providing ink from said ink chamber to the print head of the printing apparatus (Fig. 2);

- a packing member (19) provided at said ink channel, forming a part of said ink channel for allowing a flow of ink (Fig. 3), said packing member sealing the ink supply needle of the ink printing apparatus by fitting therewith (Fig. 3);

- a valve device (18) contained in said ink channel elastically abutting against said packing member in a direction which is the same as a direction of the sealing by said packing member with said valve device (Fig. 3), said packing member selectively opening and closing said ink channel in conjunction with the ink supply needle (Figs. 5, 6);

- an internal opening (15) positioned right above an ink supply port (bottom port of 13) (left portion of 15 is right above right portion of bottom port of 13, Figs. 5, 6), which communicates the ink supply port to the ink chamber formed in the ink channel (Figs. 5, 6),

- a direction of said ink channel, from the ink port to the ink chamber having the absorbent material, is substantially the same direction of the sealing by said packing member with said valve device (Fig. 3);

Art Unit: 2863

- a distance from apart of said valve device which first contacts the ink supply needle when the needle inserts into said ink supply port to a part of said packing member which engages with the ink supply needle is longer than a distance between a tip end of the ink supply needle and a part of the ink supply needle which first contacts the packing member when the ink cartridge is coupled to the printing apparatus (Figs. 3, 5), and said packing member has a surface slanting at a certain angle substantially the same as a tapered angle of the ink supply needle, said slanting surface of said packing member being disposed in the vicinity of where said packing member contacts said valve (slanting opening of 19, Fig. 3);

- a packing retainer (20) for retaining said packing member at said external opening of said ink supply port; wherein: said valve device does not comprise a sphere (Fig. 3), said packing retainer has a protruding portion protruding from said external opening toward the center thereof (20 extends from edge of opening of 19 towards center of opening, see line below 19, Fig. 3);

- said valve device comprising a valve body contacting with said packing member and comprising a substantially flat surface with which the ink supply needle contacts (Fig. 5);

- a guide body (left vertical wall of 12) for operably suppressing a horizontal deviation of said valve device (side wall prevents 18 from moving horizontally to the left, Fig. 3);

Allowable Subject Matter

3. Claims 1, 5-7, 10-25, 27, 29-32, 34, 36-44, 46, 47, 50, 53, 58-61, and 63 are allowed.

Reasons For Allowance

4. The combination as claimed wherein an ink cartridge comprising a sealing film sealing said external opening of said ink supply port until said ink supply needle penetrates into said ink supply port (claim 1) or said abutting of said valve device against only an upper part of said protruding rim performs said closing of said ink channel (claims 5, 46) or said valve body comprises an ink channel allowing ink to pass therethrough (claim 18) or said guide body comprises an axial portion and a guide block (claims 21, 27) or said valve body and said guide body are fixed to each other by fixing means (claim 24) or said valve body and said guide body are formed as one unit with each other (claim 25) and a member protruding from said valve surface and contacting with a tip end of the ink supply needle (claim 29) or wherein said valve body of said valve device comprises a surface, facing said packing member, provided with a notch (claim 30) or said spherical surface of said valve device has a diameter of curvature larger than a diameter of a widest part of said valve body (claims 34, 61) or said packing member includes a protruding portion extending toward said supply port and fitting with the concave portion of said ink supply port (claims 53, 58-60) is not disclosed, suggested, or made obvious by the prior art of record.

Response to Arguments

5. Applicant's arguments filed on October 23, 2003 have been fully considered but they are not persuasive.

With respect to the 35 USC 102 rejections regarding claim 51, Applicants argue that Nagasaki does not teach an internal opening positioned right above the ink supply port. Examiner's position is that Nagasaki teaches an internal opening (15) positioned right above the ink supply port (bottom port of 13, Figs. 5, 6). Internal opening (15) is deemed to be positioned right above the ink supply port (bottom port of 13) in the sense that a portion (left portion) of (15) is directly above a portion (right portion) of the bottom port of (13).

With respect to the 35 USC 102 rejections regarding claim 54, Applicants argue that Nagasaki does not teach "distance from apart of said valve device which first contacts the ink supply needle when the needle inserts into said ink supply port to a part of said packing member which engages with the ink supply needle is longer than a distance between a tip end of the ink supply needle and a part of the ink supply needle which first contacts the packing member when the ink cartridge is coupled to the printing apparatus".

Examiner's position is that in view of the attached illustration of Fig. 6, Nagasaki clearly teaches "a distance (blue line) from apart (A) of said valve device which first contacts the ink supply needle when the needle inserts into said ink supply port to a part (B) of said packing member which engages with the ink supply needle is longer than a distance (black line) between a tip end (C) of the ink supply needle and a part (D) of the

ink supply needle which first contacts the packing member when the ink cartridge is coupled to the printing apparatus". These teachings can also be seen in Fig. 5 of Nagasaki, even though not as clear.

New claim 62 is not deemed to be patentable as discussed above.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

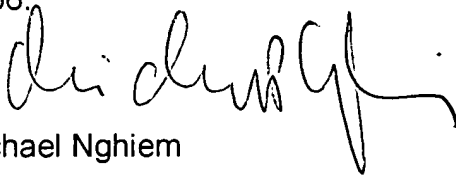
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Nghiem whose telephone number is (703) 306-3445. The examiner can normally be reached on M-H from 6:30AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hilten can be reached at (703) 308-0719. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Michael Nghiem

**MICHAEL NGHIEM
PRIMARY EXAMINER**

February 2, 2004

FIG. 5

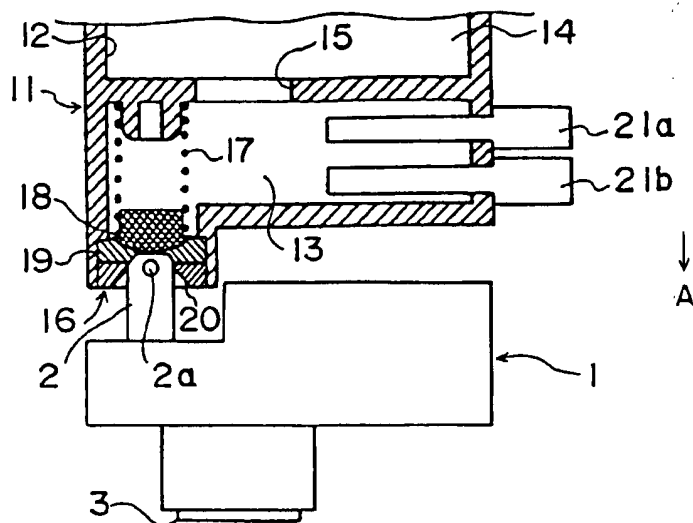


FIG. 6

